
NUMBER 5165-1 (Supersedes 5165)

Jaypol™ AT2

Acrylic Associative Thickener for Water-Based Systems - Coatings

Product Overview

Jaypol AT2 when compared with Jaypol AT1 provides more in-can viscosity, and is thus recommended for use in interior and exterior flat dispersion paints, where it imparts excellent rheological balance between high and low shear viscosities with low dosage.

Benefits

- Superior film build
- Less roller spatter
- Improved flow and levelling whilst retaining sag resistance.
- Compatibility with pigments, extenders and emulsion resins
- Good water resistance
- Resistance to bacteria attack
- Thickening cost (ease and low level of use)
- Improved brush load

Applications / Uses

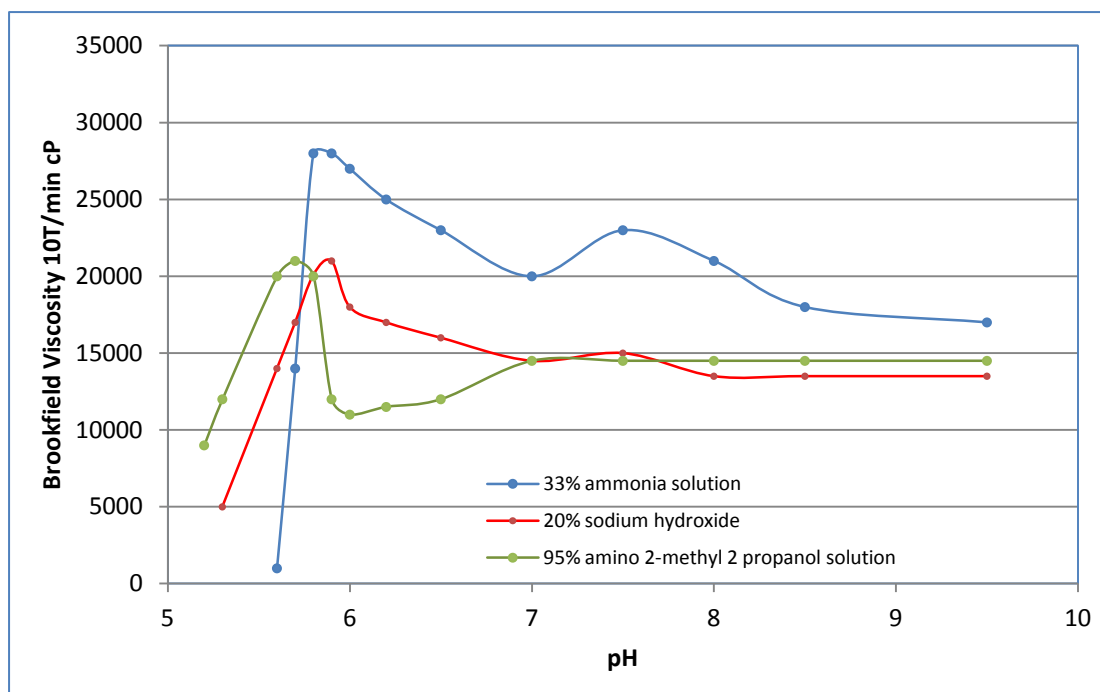
Jaypol AT2 improves brush load and film build, spattering and sag-levelling compromise and amongst other uses is particularly apt for interior and exterior flat dispersion paints.

Performance Data

Jaypol AT2 gives dispersion paints a very good rheological behavior at high shear and low shear rates, thus imparting excellent film build whilst maintaining easy application properties. Furthermore, roller spatter is significantly reduced. Most tinted dispersion paints thickened with Jaypol AT2 show none of the adverse effects which are often encountered with other associative thickeners: (e.g. increase in viscosity with time and flocculation of the pigments).

Jaypol AT2 has been found to give excellent colour development, and is compatible with either organic or inorganic pigments, and is resistant to bacteria and enzymes. Compared with traditional acrylic thickeners Jaypol AT2 improves the water resistance of the dry paint films.

Jaypol AT2 has given excellent results when used with vinyl acetate, vinyl chloride, ethylene, styrene acrylate, vinyl versatate, pure acrylic dispersions and with most organic and inorganic pigments. Jaypol AT2 is supplied as a ready to use product; its low viscosity renders it easy to handle and easy to disperse. Jaypol AT2 develops its thickening properties in neutral or alkaline medium, as shown on the following graph:



The most effective and stable viscosity is obtained when the plateau part of the pH viscosity curve is reached. The final pH of the paint should be adjusted within the range 8 – 9. Lower pH's can lead to flocculation and viscosity instability.

Neutralisation at pH = 8.5 of 1000g of Jaypol™ AT2 (30% solids content) requires:

- 96 g of NH₄OH 33% (specific gravity = 0.90)
- 255 g of caustic soda 20% (specific gravity = 1.22)
- 123 g pHLEX 410 (organoamine blend)

Usage Notes

Jaypol AT2 is stable if appropriately used. Thermal decomposition emits toxic fumes carbon monoxide / carbon dioxide. Avoid alkalis, aluminum and iron. It must be stored at a temperature above 5°C and below 40°C, protected from direct sun exposure.

In respect of handling no specific technical measures are required.

Read and understand the Safety Data Sheet (SDS) before using this product.

Physical Properties

Description:	Jaypol AT2 is an alkali swellable acrylic based associative thickener.
Appearance (@ 20°C):	low viscosity, white milky liquid
Odour:	odourless
Specific gravity (@ 20°C):	approx. 1.06 g/cm ³
Solubility:	soluble in water
Solids content:	approx. 30 %
Flash point (open cup):	exceeds 100°C
pH (@ 20°C):	3

FORMULATION NOTES:

Jaypol™ AT2 can be added to a paint formulation in the form supplied or in a 1/5 blend of Jaypol AT2 and water (i.e. at 5% solids content in water), neutralized to a pH of 8.5 before addition. In either case the pH of the formulation should not fall below 8. If necessary, the medium to be thickened should be pre-neutralised to a pH of 9.0 before any addition of Jaypol AT2 is made. The exceptional thickening efficiency of Jaypol AT2 allows it to be used at low addition levels whilst maintaining excellent rheological and application properties. Since Jaypol AT2 is an associative thickener, its thickening efficiency will depend on the chemical structure and particle size of the dispersion, the nature of its protective colloid and the choice of coalescing agents. However, typical levels of addition for Jaypol AT2 fall in the range 0.1% - 0.6% by weight of active ingredient on the total weight of the formulation. The optimum thickening effect is obtained 24 hours after the incorporation of Jaypol AT2 in the paint.